UNIVERSITY TRANSPORTATION SURVEY

TRANSPORTATION IN UNIVERSITY COMMUNITIES

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DISCLAIMER

ABSTRACT

Universities and transit agencies across the United States have been finding innovative new ways of providing and financing mobility services on and around university campuses. Many transit agencies are providing substantially more service and moving substantially more riders than their counterparts in non-university environments.

The characteristics of university transportation systems were examined through demographic data and a mail questionnaire from many transit agencies and universities across the United States. The questionnaire was mailed to 48 universities and transit agencies. Twenty-three responded with enough valid data and information to be included in the study.

The premise of the study was to determine what types of relationships existed between transit performance and university policies or practices.

The questionnaire was constructed to examine a number of substantive areas and to acquire foundation information, such as demographics and transit performance information. The study included the following areas of inquiry:

- Campus and Community Master Planning
- Parking and Automobile Policy and Practices
- University Development, Land Use, and Universities Communities
- University Transit Fare Policy
- Transit Service Characteristics to University Campuses
- University Transit Fare Subsidies
- Student Residential Demographics
- Other General Characteristics

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1. INTRODUCTION

Transportation is an important part of campus life for most university students. University communities and student populations typically possess many of the characteristics that make the use of alternative modes of transportation convenient and a necessity.

Unlike other areas in modern communities, a densely populated residential area where a large portion of students, and even faculty and staff, reside generally surrounds universities. Various forms of commercial development also may be located close to campus to serve the university population's needs. This density of population presents challenges and opportunities for the university and community's transportation systems.

Traffic congestion, accidents, high parking demand, and modal conflict are among the many transportation problems manifested in this type of environment. In fact, transportation planners often see a degradation of the automobile level of service when universities reach a certain population threshold and density. Law enforcement personnel observe higher than average rates of accidents involving many modal forms (e.g., auto, bicycle, pedestrian, etc.)

Many universities and university communities have tried, with varying degrees of success, to address these problems through a combination of transportation related programs, policies, and practices. In the past two decades, transit operators have discovered that under certain circumstances university students will ride transit in large numbers.

Transit has the characteristic that it can deliver large numbers of people to a destination with a relatively small impact on vehicular level of service, compared with the automobile. This is especially effective when transportation resources of a given community or college campus cannot expand roadways to meet an ever-increasing demand for vehicular service.

Authorities at universities are beginning to understand that, like it or not, they are in the transportation business along side their municipal counterparts. Most universities operate parking services that demand not only more resources annually, but also consume campus land that could be put to better use as academic buildings.

The trip ends that make up a majority of the daily trips made by university students, staff, and faculty members possess one common characteristic: the university's central campus core. It is this fact, among the others mentioned, that provides many transit agencies and university administrations an opportunity to rethink the way they have approached serving the transportation needs of the university community.

This study examines a number of factors that affect transit and its ability to provide economical, efficient, and effective transportation services to university populations. The goals of the study are threefold:

- To provide a better understanding of the types of transportation policy, demographics, and land use characteristics on and around university campuses and the extent to which they are employed or managed,
- To determine what relationships exist, if any, between transit performance, land use on university campuses, types of university communities, university transportation and parking policies, and student demographics, and
- To build on the body knowledge that is being developed in this area of inquiry.

2. CAMPUS & COMMUNITY MASTER PLANNING

AN EXAMINATION OF THE STATE OF THE EFFORT TO PLAN FOR THE FUTURE

Campus and community master planning has been taking place for many years. The comprehensive nature of the planning this study examined includes many aspect of campus life. The survey looked at the types of planning that was being done at universities, from the aesthetics of the campus environment that provides the richness of the collegiate experience to the management of parking where we leave our car while attending class.

This assessment inquired about whether particular issues were addressed in the campus master planning effort, not the quality of the completed plans. An assessment of whether a particular area of campus life has been studied and planned can be a somewhat objective activity. The assessment of whether those plans achieve a certain level of quality and the degree to which they are implemented is certainly open to a substantial level of conjecture.

2.1 CAMPUS MASTER PLANS

Ninety-one percent of the respondents of the survey noted that their university possessed a campus master plan. However, when asked whether those master plans had been updated in the last eight years, only sixty-five percent were able to answer that the plans had been updated. Twenty-six percent of the respondents indicated that the plans had not been updated in the last eight years and nine percent gave no answer.

Figure 2.1 displays this information graphically:

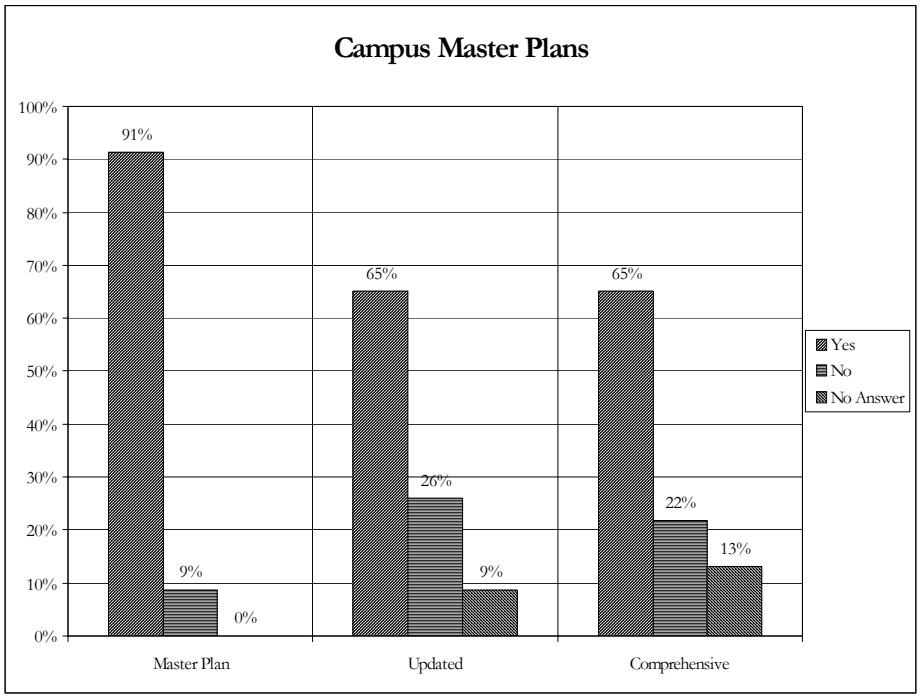

Figure 2.1

Campus master plans generally include a number of land use and service elements. The survey examined eight such elements, which were measured in this survey:

- Campus Site Structure
- Open Space
- Service Access
- Land & Building Use
- New Building Construction
- Campus Aesthetics
- Use of Technologies
- Utility Infrastructure

Each of these areas is viewed as a component of the university's general plan or campus master plan. As such, these planning components provide long-range direction for the areas they address.

As an assessment of the comprehensive nature of the campus master plans of the survey's participating universities, investigators asked each respondent to identify whether their university's campus master plan included any of the aforementioned plan components. The results are instructive.

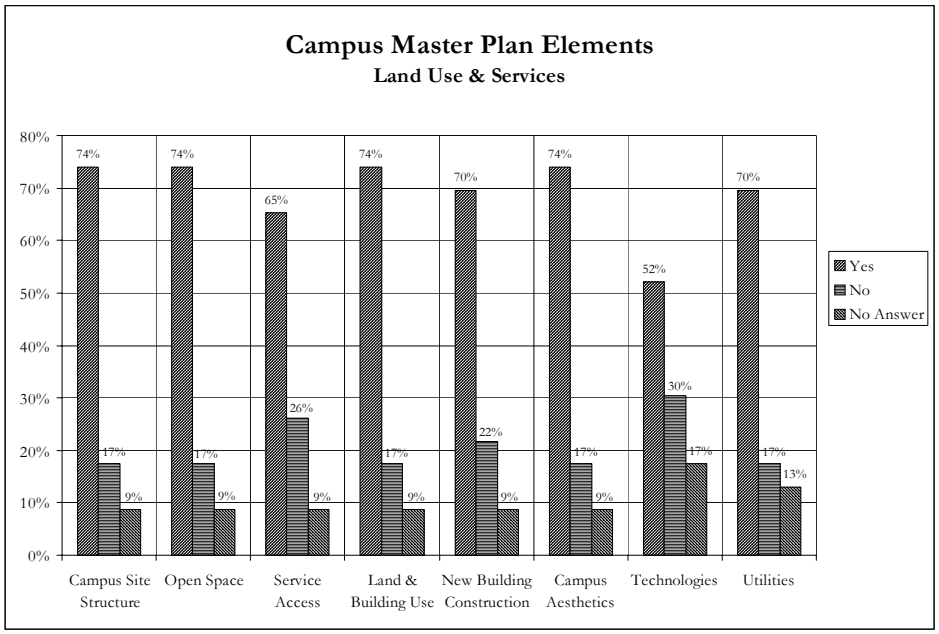

Figure 2.2

Consistently, a range of between 65 and 74 percent of the respondents said that their university included these planning categories in the comprehensive campus master plan, one exception notwithstanding. That exception was the category of technologies.

"Technologies" as a planning category includes computers, networking, distance learning technologies, electronic libraries, and video teleconferencing to name a few. Only 52 percent of the respondents indicated that their university had included technologies in the campus master plan. A full 30 percent said the technology area was not included in the university's comprehensive plan.

Survey investigators examined the transportation components related to university life to determine the extent of planning that has gone into shaping the future of transportation facilities and services on and around university campuses.

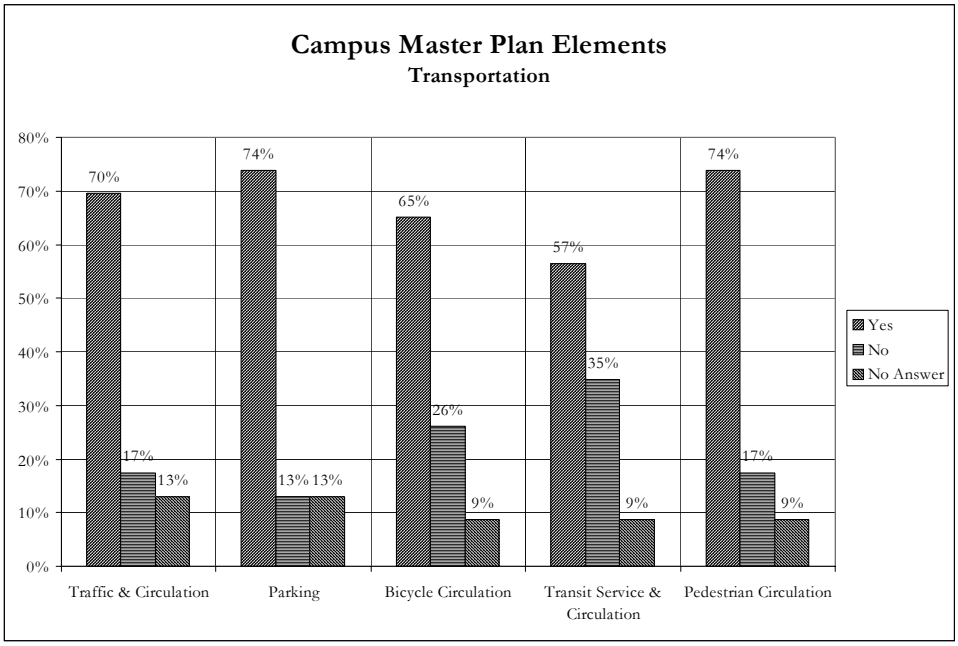

Figure 2.3

Parking and pedestrian circulation were the planning categories included in most campus master plans. Yet, 13 and 17 percent respectively contain no parking or pedestrian element.

Traffic and circulation issues were addressed at 70 percent of the universities. In a campus master plan, this element certainly is related to issues internal to the campus and may even be moot if the university has substantially restricted automobile access. It may be that other planning work, not measured by the survey, has taken place with respect to the coordination of transportation systems with the larger community. Still, 17 percent of the respondents point to university master plans that do not contain this element.

Two rather surprising findings were the number of university comprehensive plans that include an examination of bicycle circulation and transit services and circulation.

Many universities have seen a resurgence in bicycle use by students over the past decade or two. Some schools, such as the University of California at Davis, have even accommodated the bicycle by building dedicated facilities for its use.

A full 26 percent of the universities in the survey have not included a bicycle circulation element in their campus master plans. Only 65 percent address the issue.

Transit fares no better. Only 57 percent of the respondents indicated that their university's campus master plan incorporated transit service and facilities in the planning process. Thirty-five percent did not.

Planning for the future can often improve the likelihood of achieving outcomes that university administrations and communities seek. Notably, some areas of comprehensive university planning appear to need attention, at least at the universities surveyed. Those areas include:

- Updating comprehensive plans more frequently
- Making campus master plans comprehensive, when appropriate, by including:
    - an examination of current and future technologies,
    - addressing service access issues,
    - bicycle facilities, and
    - transit service and circulation.

2.2 COMMUNITY MASTER PLANS

As campus master planning is an important aspect of a university identifying and realizing its goals and objectives, so too are the comprehensive plans of the neighboring community. Although the level of coordination between a university's campus master plan and a neighboring community's comprehensive plans was not measured, the existence or absence of comprehensive planning by the community is an indication of one aspect of the relationship between the two entities.

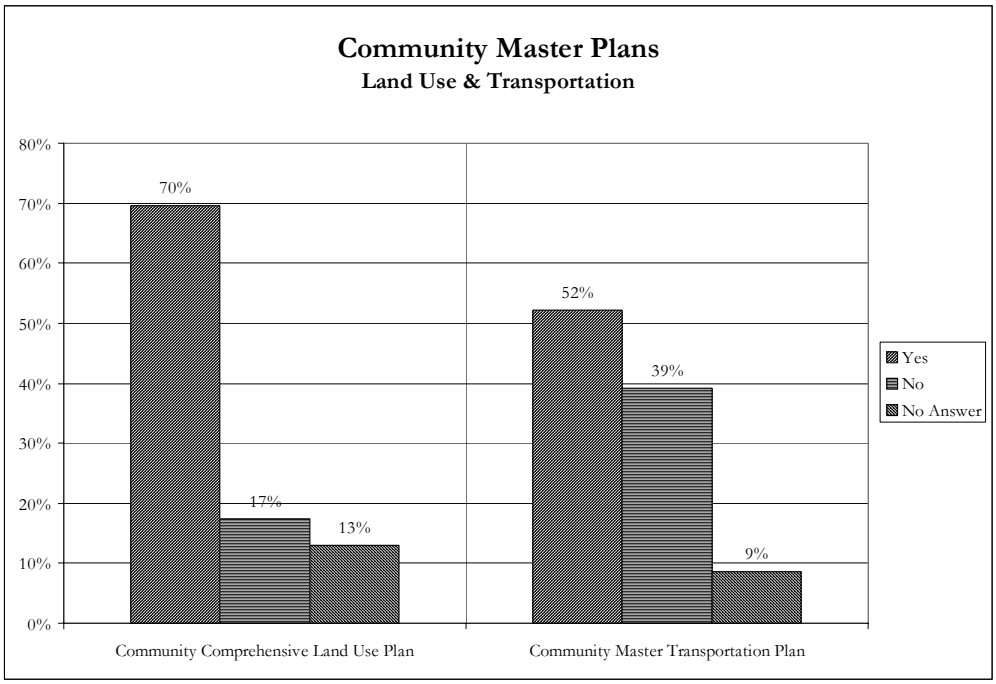

Figure 2.4

Comprehensive land use planning in communities neighboring the universities surveyed appears to take place with the same regularity as many of the campus master planning activities. Figure 2.4 shows that 70 percent of the respondents reported that a comprehensive land use plan was in place.

Master transportation planning, on the other hand, was reported by only 52 percent of the respondents. This may be due, in part, to the size of the communities neighboring the participating universities. However, it points to a substantial lack of planning community transportation.

Those who perform transportation demand forecasting often consider university campuses a special generator. As a special generator, the universities represent activity centers that have a tremendous impact on local streets and surrounding neighborhoods.

Population densities generally are higher than many other areas of the community. The campus becomes a common origin or destination for trips throughout an academic day. As such, the lack of the community planning concerning transportation exacerbates problems associated with this higher level of transportation activity.

3. PARKING AND AUTOMOBILE POLICIES AND PRACTICES

PARKING: AN ESSENTIAL ELEMENT IN THE CAMPUS TRANSPORTATION SYSTEM

On some campuses, one hears the phrase, "You know I paid my parking fee and have my permit, but it's only a license to hunt." Campus parking experiences vary from campus to campus, permit type to permit type, and parking system to parking system. There is lots of variety out there for student, staff, or faculty.

This section is a comparison of a number of policies and practices that exist on university campuses. It represents an attempt to document the types of regulations and methods being employed. Additional analysis may prove useful. Dr. Donald Shoup and others have performed some initial work, but a thorough examination of the relationship between parking and other elements of the campus transportation system is needed.

The first two areas examined in this study were the demand/supply ratios for parking on and off campus. Estimates were based on information provided by the survey respondents.

A demand ratio looks at the relationship between parking demand and supply (Demand: Supply). To understand the results found in this section then, if the result of the ratio is less than "1," supply is greater than demand. If on the other hand, the result is greater than "1," demand exceeds supply. The closer to "0" the result becomes, the greater the availability of parking. The greater the result beyond "1," the greater the difficulty for an automobile driver to find parking.

Only 17 of the 23 respondents were able to provide an estimate of the demand ratio for on-campus parking. The set of scores found across these respondents ranged from .75 to 4.00. The mean score was 1.70 and the median was 1.50.

Investigators also looked at the distribution of scores. The following chart describes distribution of the demand ratio for on-campus parking at seventeen universities. The distribution is described in Figure 3.1.

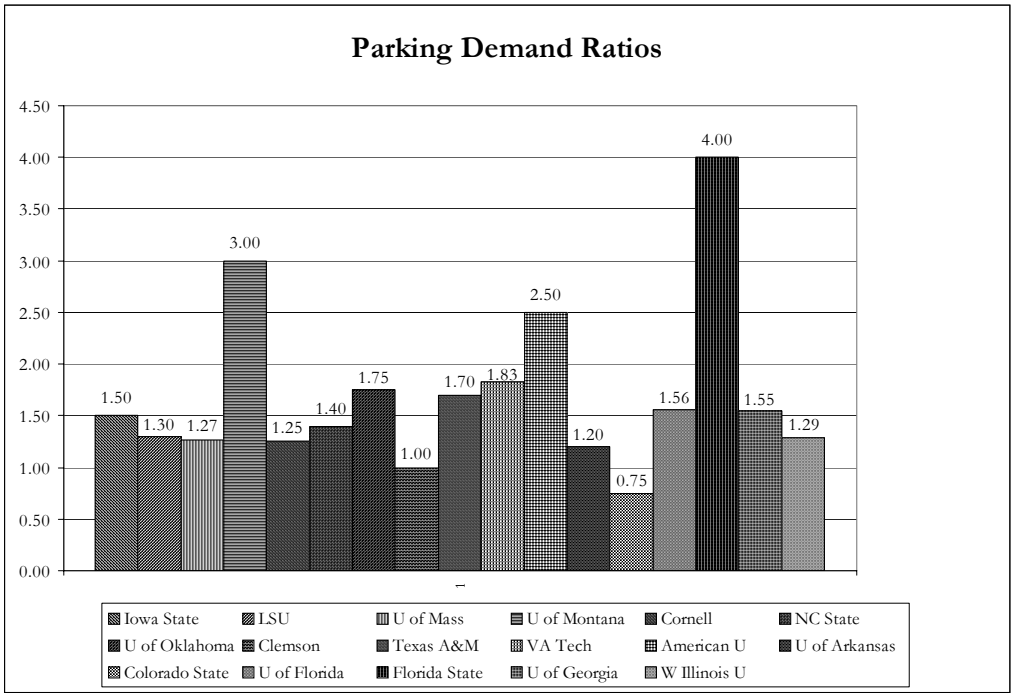

Figure 3.1

Only two respondents provided answers to the question asking for an estimate of the university's off-campus demand ratio. The off-campus question was clarified as the area surrounding campus. This suggests a lack of understanding of either the level of the availability of the parking supply in the neighborhoods adjacent to campus (if any), the impact on those areas by the demand created by the university, or both.

Investigators found that some parking and automobile policies were consistent from school to school. Other policies varied considerably.

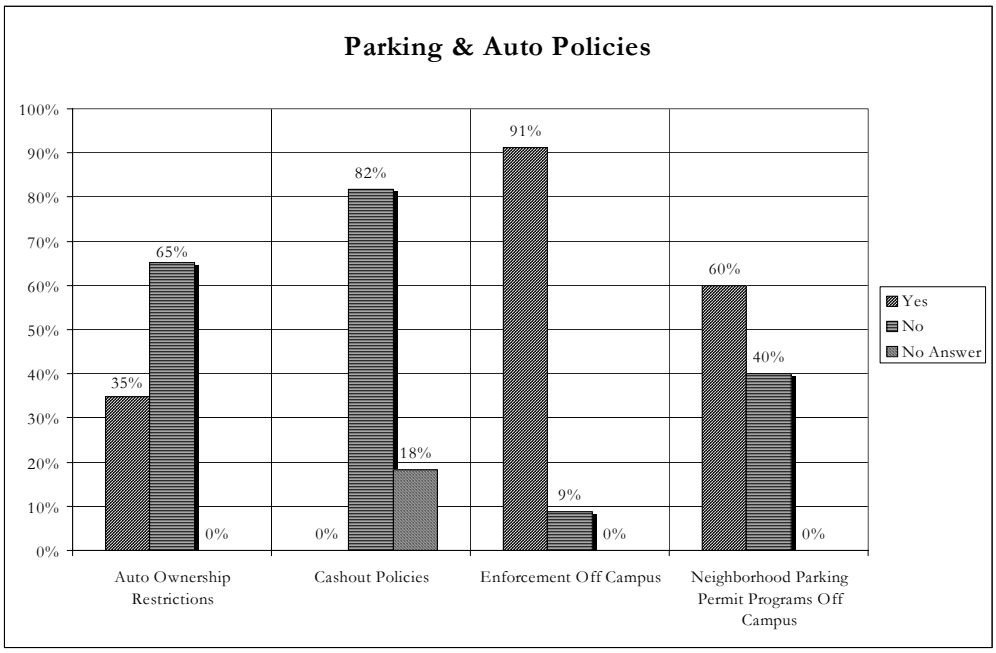

Figure 3.2

When asked whether there were restrictions to automobile ownership or parking permits for underclassmen, a full one-third of respondents said that there were. Certainly, prohibiting underclassmen to bring/park cars on campus is one way to control parking demand.

No respondent indicated that the university exercised the policy of "parking cashout." Parking cashout is the concept that a university would pay an employee or student not to park on campus. The reasoning in many instances where parking cashout is employed is that it is cheaper to pay an individual not to bring a car to campus than to incur the cost of building, maintaining, and administering the parking supply to accommodate the car.

Nearly all respondents, 91 percent, noted that either the municipality or the university enforced parking regulations in the neighborhoods adjacent to the university campus. Sixty percent also indicated that a neighborhood parking permit program was in place in the areas surrounding the university.

The survey also looked at the degree of enforcement of its parking regulations. Respondents ranked the level of enforcement on respective campuses on a scale from 1 to 10, where "1" is "lenient" and "10" is "strict."

The mean for the answers to this question was 7.43 with the median score and the mode at 8.0. Figure 3.3 depicts the range of those responses.

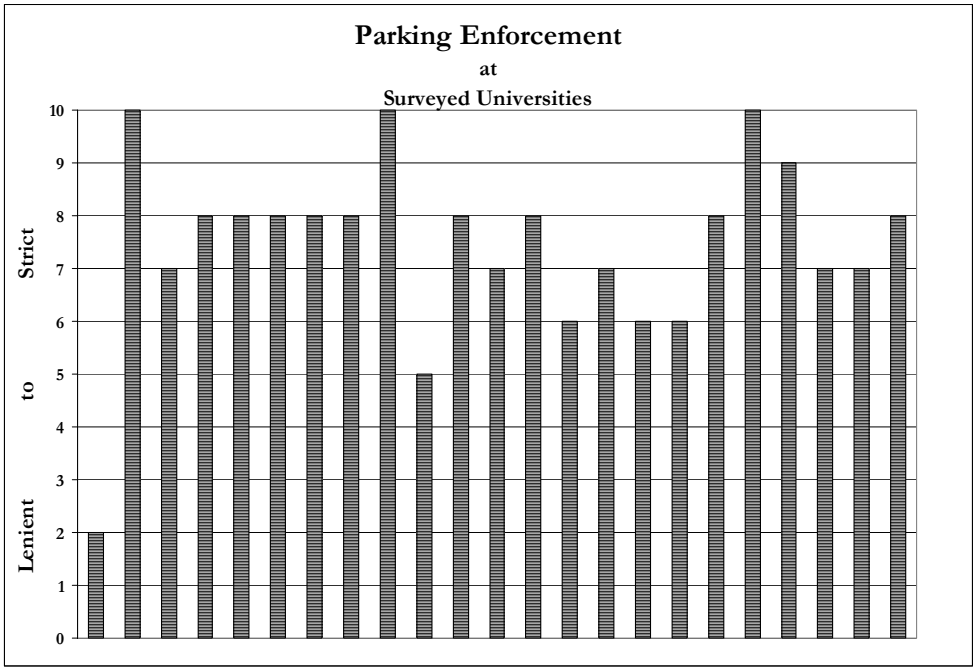

Figure 3.3

Parking fees are the bane of many university administrations across the country. No one seems to like parking fees; not the students, faculty, or staff. These fees represent an "out of pocket" cost and as such, represent a visible cost to owning and driving a car.

In larger cities, parking costs and other aspects of urban traffic clearly affect the choice of driving an automobile. However, in many smaller communities and among certain populations, parking is viewed as an intrinsic right of the automobile driver. Parking costs, when incurred, often are deeply discounted so the true cost of building, maintaining, and administering parking is not realized or shouldered directly by the automobile owner. In smaller communities, it also may be true that the university campus is the one place where parking restrictions, including fees, are a visibly evident cost of driving.

The University Transportation Survey examined parking fee structures at the participating universities. Responses were broken into four categories of parking users:

- Students living on campus
- Students living off campus
- Faculty
- Staff

The following four charts describe the semester fees charged to each of the four user groups. [1]

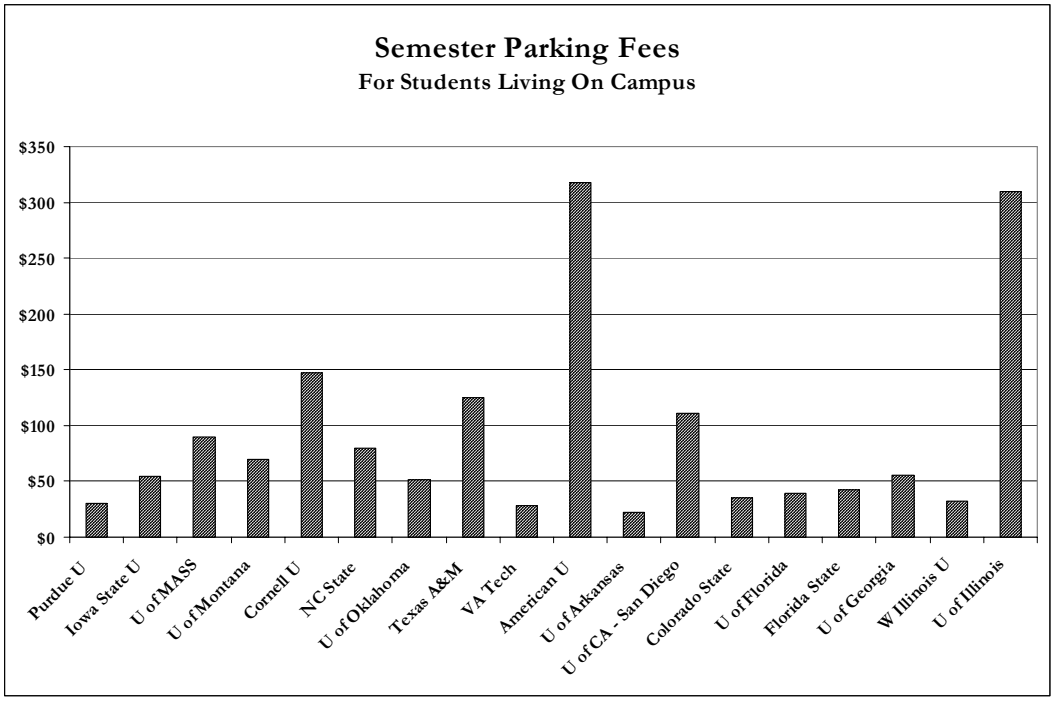

Figure 3.4

[1] At a small number of universities, a range of parking fee options for a particular user group was available based on a variety of factors, e.g., close-in parking vs. satellite parking. In those instances, this report displays an average of the range of cost. Parking fees are controlled in the following graphs and in the data presented by discarding the high and low value in each of the following data sets.

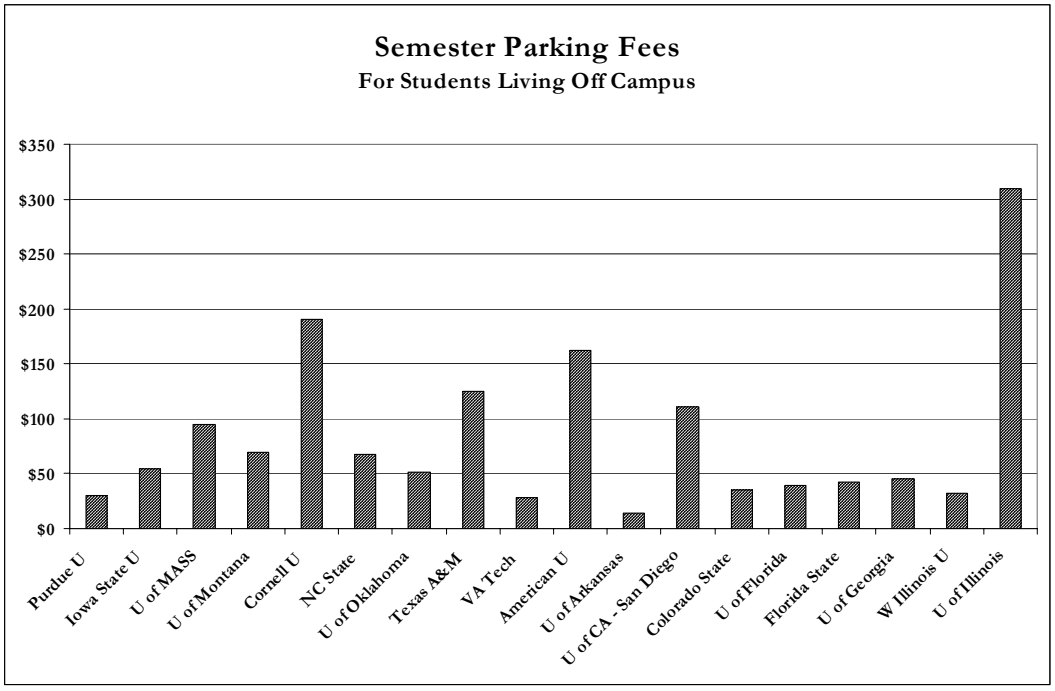

Figure 3.5

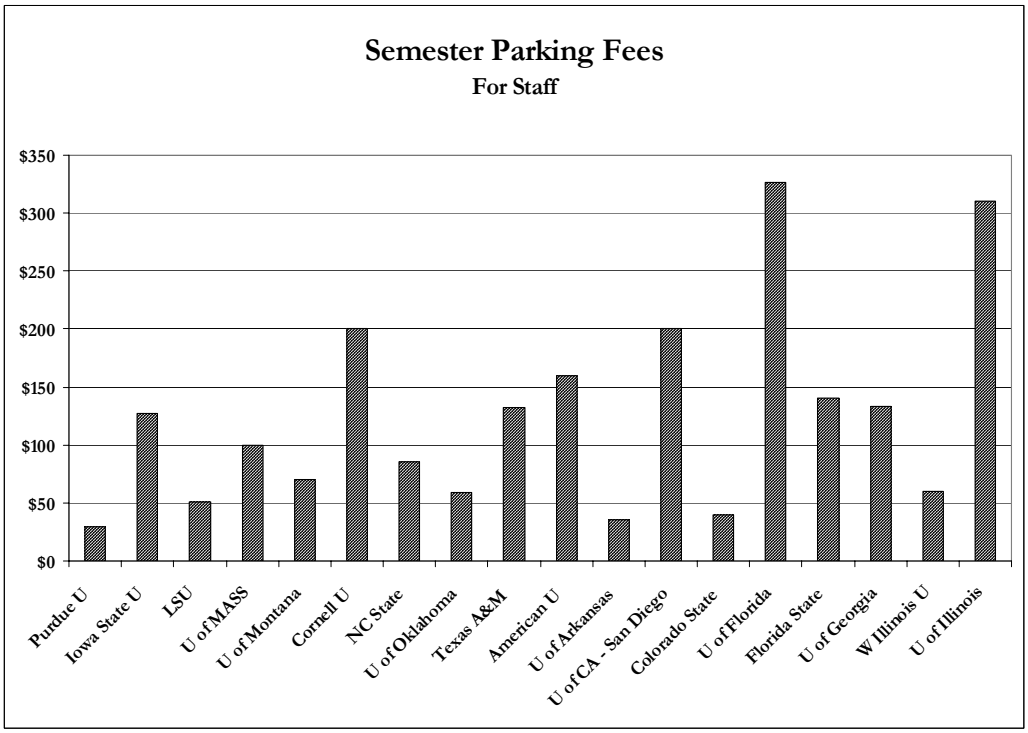

Figure 3.6

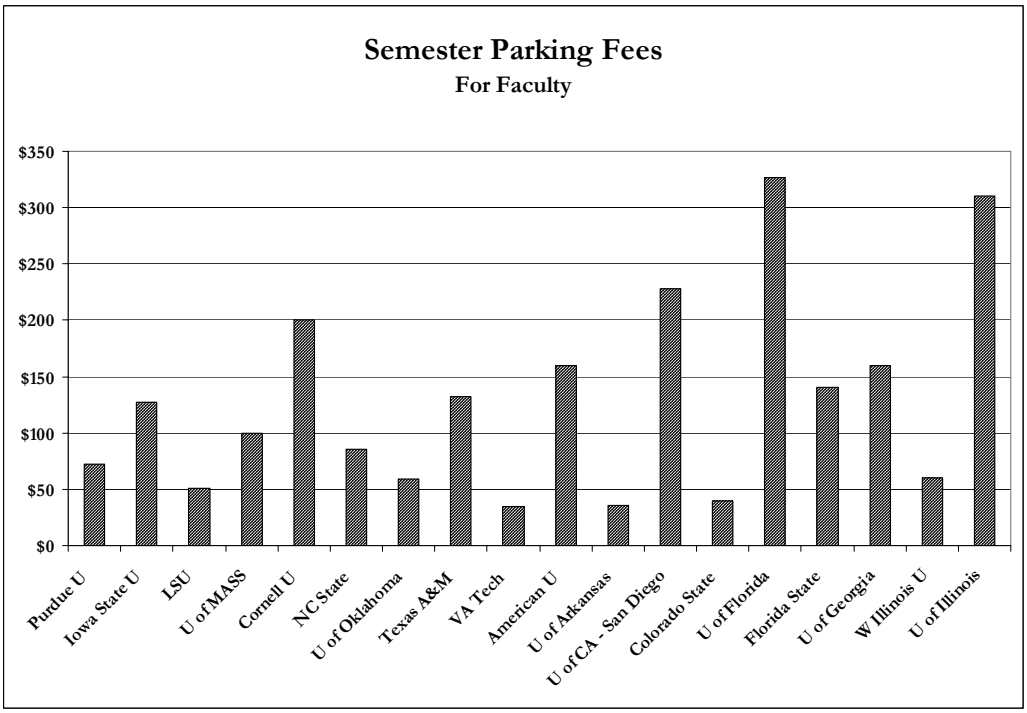

Figure 3.7

The preceding graphs describe the distribution of semester parking fees by category. The student categories corresponded rather consistently by university. The range for Semester Parking Fees for Student Living On-Campus had a low of $23.00 to a high of $318.00 per semester.[2] The mean for students living on campus was $91.06 per semester.

The range for Semester Parking Fees for Student Living Off-Campus had a low of $14.00 to a high of $310.00 per semester. The mean for students living off campus was $83.43 per semester.

At two universities, the cost of semester parking fees for off-campus student permits was higher than the fee for on-campus students. Alternatively, at four of the universities the cost of on-campus student permits was higher than the fee for off-campus students. With the exception of one university in the later comparison, the differences were relatively minor and did not suggest an implementation of targeted parking policy.

At American University in Washington, D.C., the on-campus student parking fee was nearly double the off-campus student parking fee. This fact suggests that a policy decision may be in place at the university concerning student parking.

[2] Parking fees are controlled in the data presented by discarding the high and low value for each data set.

In fact, two policy options are suggested from this data. If the goal is to limit the number of students bringing automobiles to campus who are living on campus, then a higher rate might be considered for students living on campus. Inversely, if the goal is to encourage the use of carpools, transit, biking, and walking, then the opposite policy direction might be considered for students living off campus.

The staff and faculty categories also corresponded rather consistently by university. The range for Semester Parking Fees for Staff had a low of $35.00 and a high of $327.00 per semester. The mean for staff was $125.81 per semester.

The range for Semester Parking Fees for Faculty had a low of $35.00 and a high of $327.00 per semester. The mean for faculty was $128.97 per semester.

4. LAND USE AND DEVELOPMENT

THE UNIVERSITY AS DEVELOPER

Land use affects transportation systems and transportation systems affect land use. The relationship between the two is an iterative one.

It is hard to argue that the building of a new 10-story dormitory on campus, which attracts students to live on campus when they did not live there before the dormitory was built, won't affect traffic on and around the campus. Conversely, the building of a new light rail line to or through a university campus that also serves student off-campus residential areas will affect the type of land uses (facilities and services) a university must provide.

This section of the survey was designed to better understand whether universities possessed the raw materials to accommodate new growth and, more importantly from a transportation perspective, how dense current development was on campus and where development was planned. Several additional questions also were included in this part of the survey to assess what types of development control were in place.

When asked whether the state or the surrounding municipality had enacted regulations governing the growth in trip generation that affected the university's ability to develop new facilities, only seven respondents indicated that such regulations existed. Fourteen respondents said that no regulations governed the growth in trip generation by the university. Two respondents had no answer.

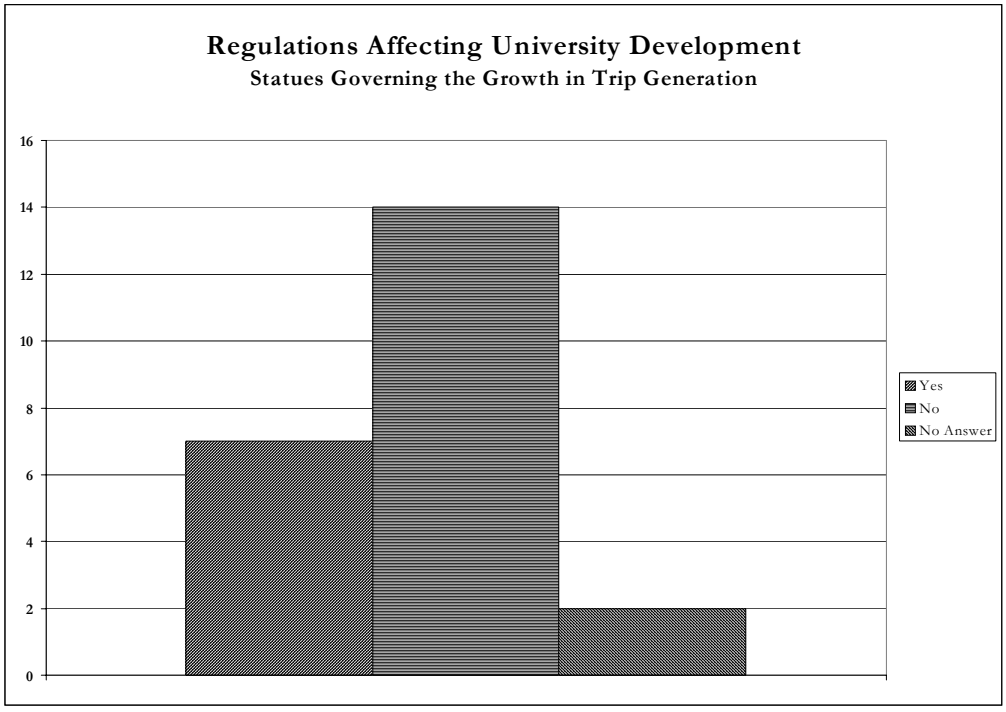

Figure 4.1

The survey additionally asked whether the surrounding community had enacted an adequate public facility ordinance and whether the regulation directly affected the university's ability to develop its property. An adequate public facility ordinance generally limits a "developer's" ability to develop property when adequate facilities (storm drainage, transportation, electrical, etc.) are not available.

On the first point, six respondents said the municipality did have an adequate public facility ordinance in place. Ten respondents indicated that the municipality did not have an adequate public facility ordinance in place and seven provided no answer. On the second point, only one respondent indicated that the adequate public facility ordinance would restrict new campus development.

For the most part, this data suggests that there is limited control over the type and extent of university development projects. It also suggests that few university communities use an adequate public facility ordinance to control the pace of development and that most university development is not restricted by such regulations.

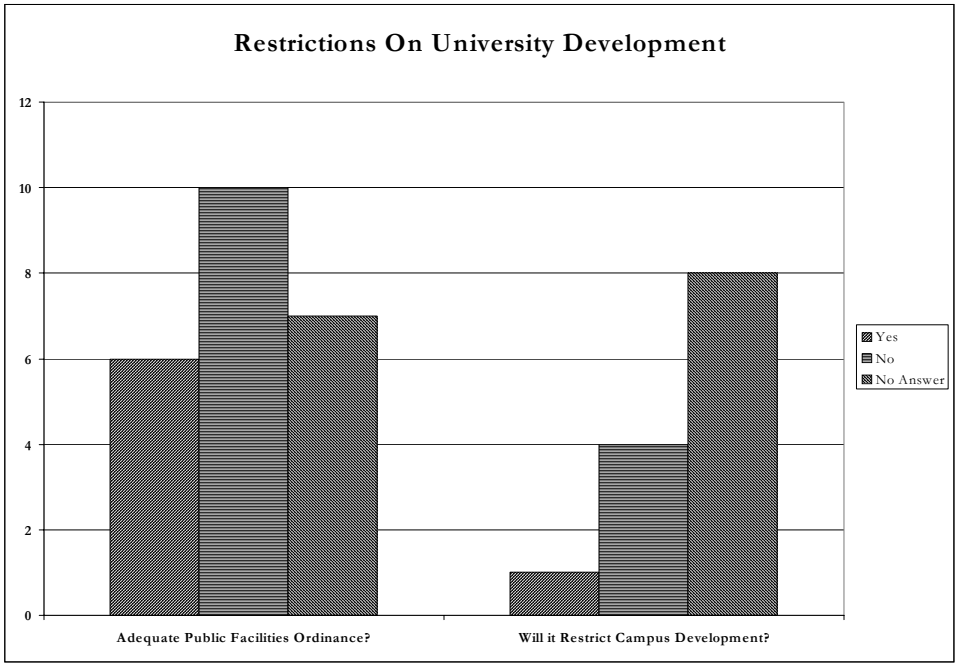

Figure 4.2

Each of the respondents also was asked where new development was taking place. The following chart describes the locations these universities see as the place where new development will occur.

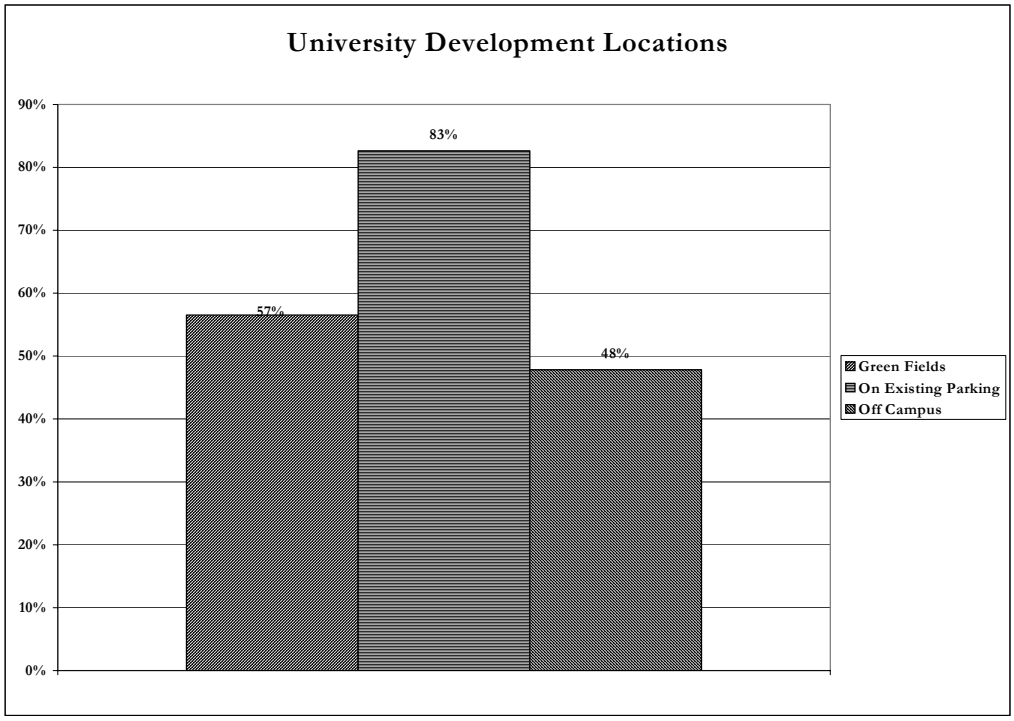
University Development Locations
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
83%
48%
Green Fields
On Existing Parking
Off Campus

Figure 4.3

5. TRANSIT AND TRANSPORTATION

TRANSIT AND TRANSPORTATION ON THE UNIVERSITY CAMPUS

The primary mission of all colleges and universities is academics. It is arguably not maintaining surface parking, installing traffic signals, ensuring student mobility, or providing incentives for its students, faculty, or staff to find more efficient ways to travel to and from campus. Yet, without a balanced functioning transportation system, many universities find that they are spending more resources each year on transportation-related facilities and services.

5.1 UNLIMITED ACCESS

This section examines responses from the 23 areas responding to the survey on transit and transportation characteristics, issues, policies, and practices. The first set of data we explore relates to the concept of *unlimited access* to transit.

Unlimited Access is the concept that through some prepayment to a transit agency (public or private) for the "value" of all the rides expected to be taken by a group (students, faculty, and/or staff), the payment of an individual fare is eliminated for members of that group. This mechanism is documented in a recent study of 31 universities.[3]

Unlimited access is similar to group medical insurance plans that do not require a co-payment. Those plans allow for access to medical services by pre-paying the estimated cost associated with serving a certain group with unique medical characteristics. In these instances, individual access to services is unlimited.

Similarly, when implementing unlimited access to transit service, estimates are made for the transit demand the group will create for the year(s) ahead. A lump sum fee generally is paid in advance and basic access to the transit service is established for group members. *Unlimited Access* eliminates the payment of individual fares and thereby removes a significant disincentive (barrier) to riding transit.

This financing method was initiated by universities and transit agencies. The practice dates to at least 1974 when the City of Fort Collins, Colo., began providing public transportation services to the students at Colorado State University. Other campuses with a long history of high-quality and sometimes unique unlimited access transit include the University of Georgia, Michigan State University, the University of Iowa, and the University of Massachusetts among others.

In the past decade, this practice has been emulated and even reinvented to an evolving form by other universities and transit agencies. Selected members of this group include the University of Illinois,

[3] Unlimited Access, Jeffrey Brown, Daniel Baldwin Hess, and Donald Shoup, Institute of Transportation Studies, School of Public Policy and Social Research, University of California, Los Angeles, 2000.

Cornell University, Purdue University, the University of Washington, and the University of Wisconsin at Milwaukee.

What is unique and yet commonplace about the method is that it operates on basic economic principles. It also levels the playing field between transit and the automobile by removing the "fare penalty" that is rarely imposed on the car-driving public.

Unlimited access on university campuses provides collateral benefits not immediately obvious to the casual observer. In their report, "Unlimited Access," Dr. Shoup and others point out:

"University officials report that Unlimited Access reduces parking demand, increases students' access to the campus, helps to recruit and retain students, reduces the cost of attending college, and increases transportation equity. Transit agencies report that Unlimited Access increases ridership, fills empty seats, improves transit service, and reduces the operating cost per rider."

Respondents to the University Transportation Survey were asked whether unlimited access was in use at their university and for which groups in the university community.

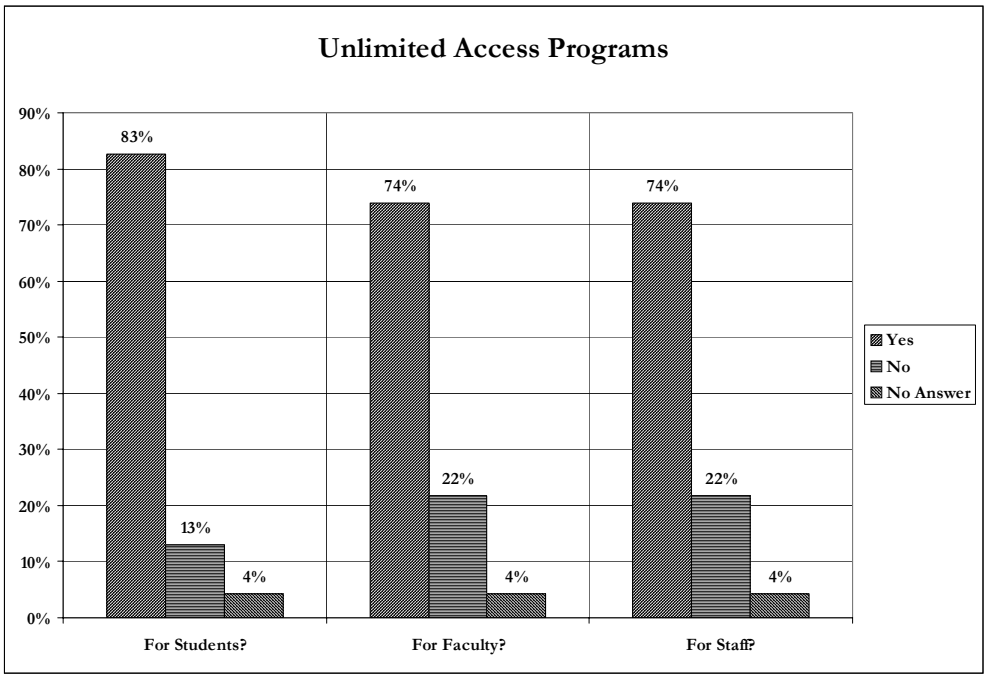

Figure 5.1

Figure 5.1 shows that for the participating universities, unlimited access programs are common. Eighty-three percent have some form of unlimited access program for students and 74 percent for faculty and staff.

5.2 TRANSIT FACILITIES AND AUTO ACCESS

Investigators also wanted to examine automobile use and facility accommodations for transit on campus. Data about these could be instructive, even predictive, about transit ridership performance. For example, in most areas where there is no automobile travel and transit service exists, transit performance was expected to be enhanced.

The survey first asked whether dedicated transitways existed on the campus. Respondents indicated that only two (13 percent) of the 23 university campuses had dedicated transitways.

However, when asked whether automobiles were allowed on campus, 96 percent said that cars were allowed. The answer may have been unanimous, but one respondent failed to answer the question.

The final question in the series asked where on-campus vehicles, other than service vehicles, were allowed to travel. The choices were 1) the campus core, 2) the campus periphery, and 3) both areas.

Five percent of the respondents said that automobiles were allowed in the campus core. Another five percent indicated that cars were not allowed on campus anywhere. Thirty-two percent of the universities allowed cars only on the periphery of campus and 59 percent allowed access to all parts of campus. One respondent failed to answer the question.

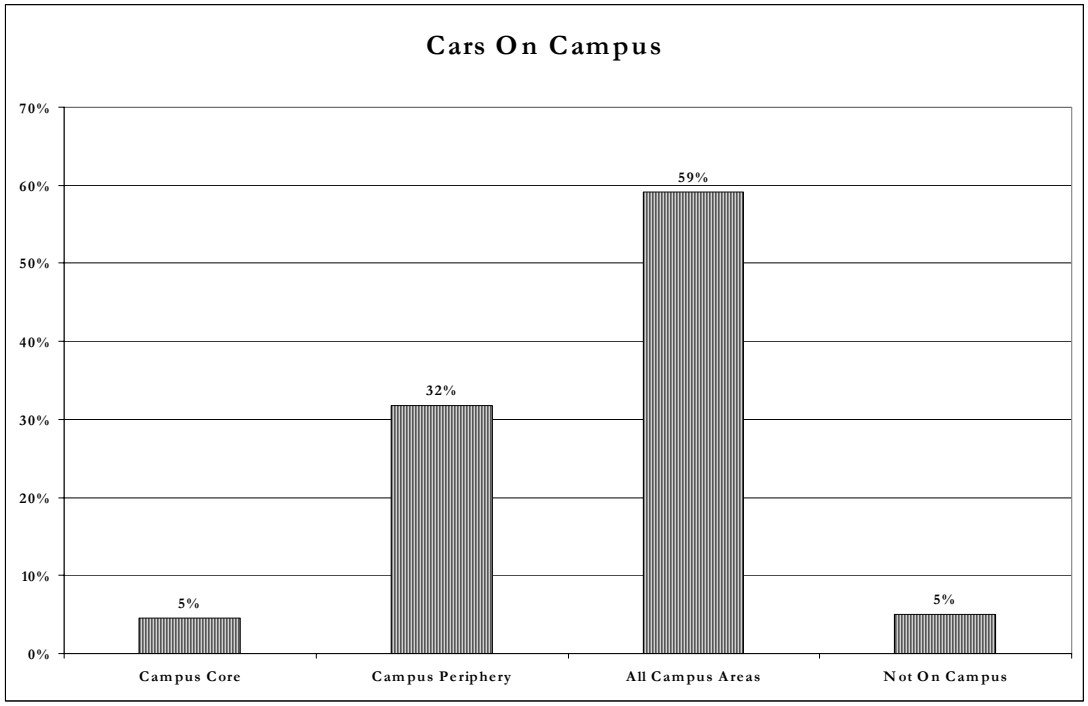

Figure 5.2

5.3 PASSENGER ACCOMMODATIONS

The next set of questions in the survey attempted to examine what kind of accommodations where made for transit passengers and service. The questions centered on the type of stop(s) and therefore asked whether the transit service serving campus

1. served a centralized transit center in the heart of campus,
2. served a transit center at the edge of campus, or
3. served the periphery of campus, but did not travel through a centralized hub.

One of the primary complaints often heard about transit and often used as an excuse not to ride transit is the "convenience" factor. Simply put, it is less convenient to use transit because it does not come close to where one lives and because it does not service one's destination. Certainly, that is a relative definition.

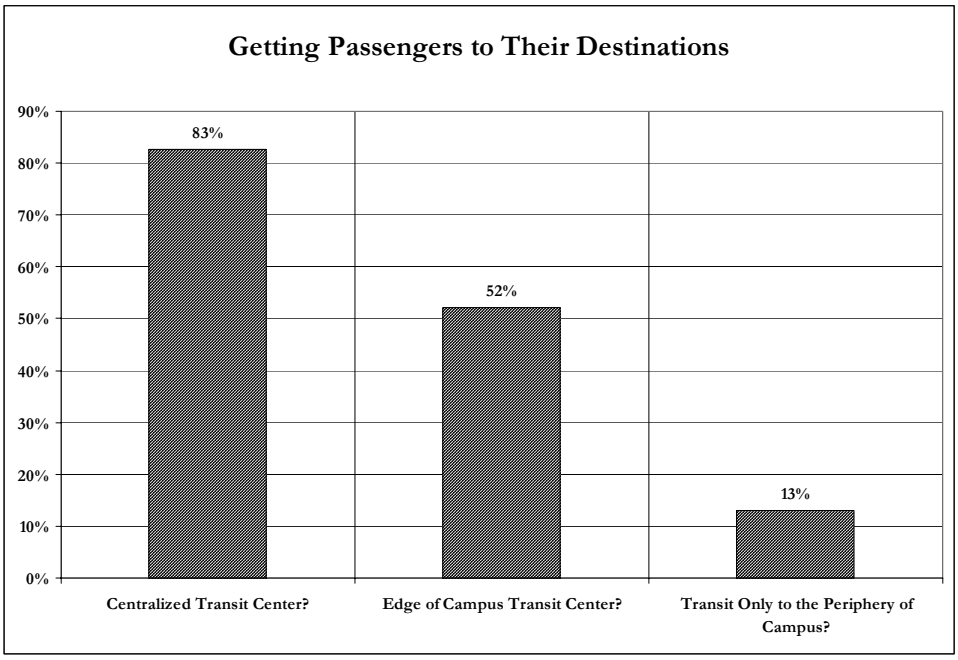

Figure 5.3

However, transit systems do realize an increase in ridership when the system delivers passengers to locations within easy walking distance of major destinations. As a rule of thumb; "the closer, the better." Most transportation/transit planning texts indicate that the maximum walk distance for transit passengers is approximately one quarter mile or three and one half city blocks.

Figure 5.3 shows that 83 percent of the transit systems served a hub in the center of campus and more than half (52 percent) also served a hub at the edge of campus. Thirteen percent provided service only to the periphery of campus.

One of the challenges of making transit work is paying for the service. Transit, unlike the automobile mode, traditionally had fewer formal revenue sources to tap. On the university campus, students often support the use of transit through student fees generally approved at student referendum.

5.4 FINANCIAL CONTRIBUTIONS OF UNIVERSITY ADMINISTRATIONS

Investigators were interested in assessing the extent that the university administration, through whatever means, also supported transit service to the university community. After all, the university surely would stand to benefit in a reduction of the need to invest in transportation infrastructure such as roads or parking facilities. Results of the survey on this question were somewhat surprising.

Thirty-nine percent of the universities in the survey made an investment in lowering the fees/fares paid by students using the transit system. Fifty-seven percent made no transit investment on behalf of students.

However, 52 percent of the university administrations made an investment in lowering the fees/fares paid by faculty and staff using the transit system. The result was curious for two reasons:

- Faculty and staff generally represent only 15 to 20 percent of the population of individuals traveling to a university campus, and
- Faculty and staff are considerably more able to pay a transit fare, i.e., the percentage of their annual income used for transportation is significantly lower than that of students.

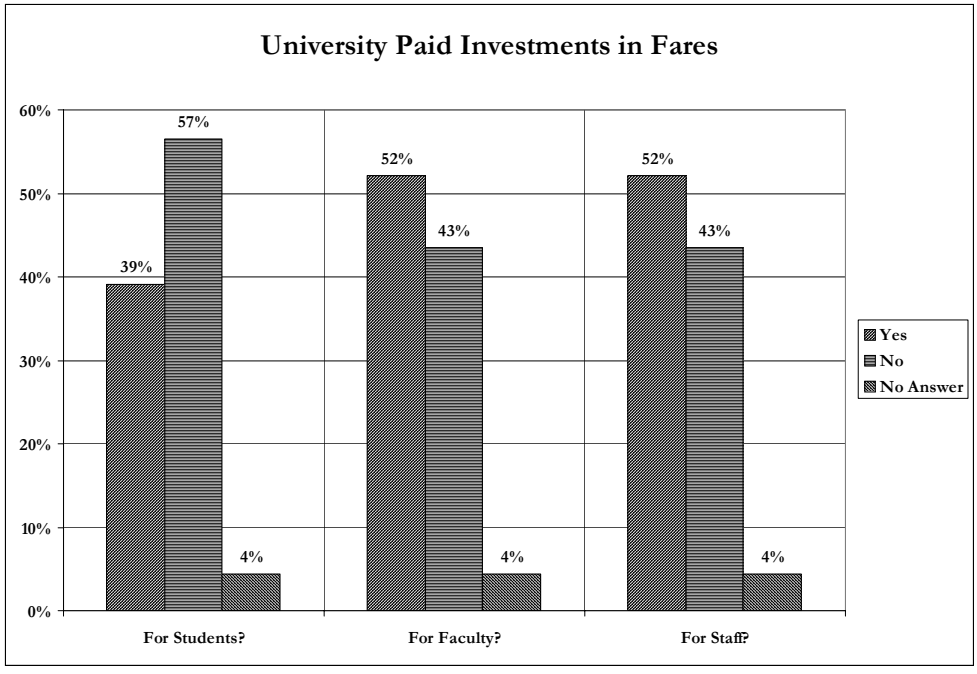

Figure 5.4

This area of inquiry may need additional work. It will be important to understand what a university's motivation might be to invest in faculty and staff, but not students. It may be as simple as the benefits received by faculty and staff are employment benefits. It also may be that students traditionally have chosen to assess themselves a fee to pay for transit service and the universities saw no reason to offset the student contribution.

A better understanding of the policy implications should be pursued. Does reducing the cost of access to transit help retain employees and attract students to the university? Is the targeting of these resources to the faculty/staff side of the equation the most effective way to manage traffic/parking demand? Are there others investments (all resources) that the university administration can make to encourage the outcomes they wish to achieve?

5.5 STUDENT DEMOGRAPHICS

One aspect of serving a population with transit is having a good understanding of where they live and what constitutes the primary trip the transit agency is interested in capturing and serving. The survey asked the respondents to estimate the percentage of students living within certain distances of the central campus.

It should be noted that this question received the most "no answer" responses, nearly 40 percent. One could speculate that this was because this question requires the most work to answer e.g., GIS plot, spatial analysis, etc.

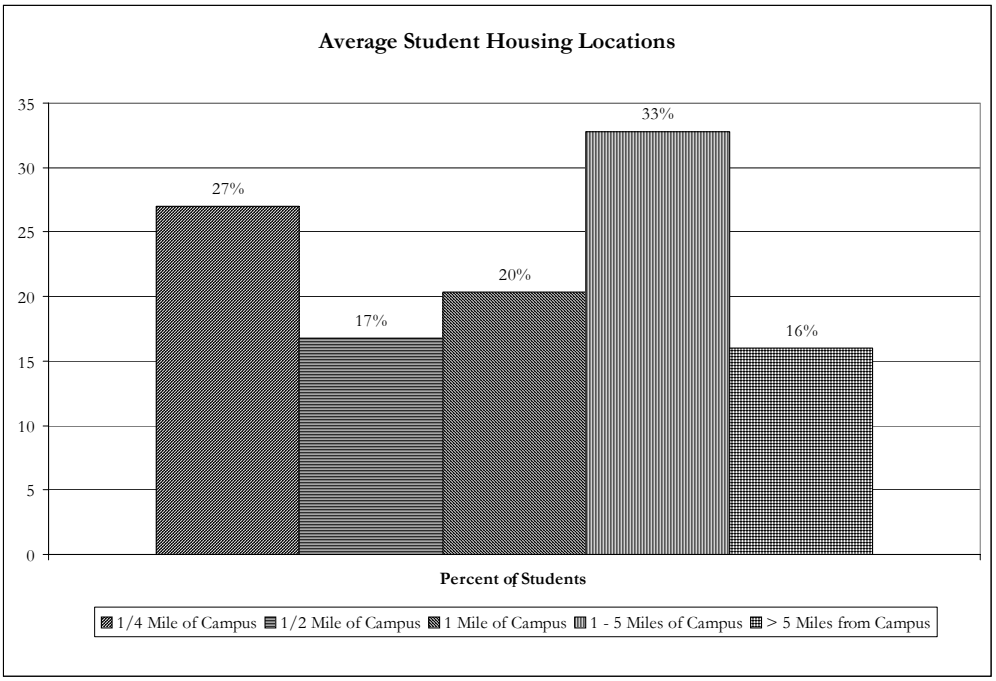

Figure 5.5

However, understanding the patterns of student residences and their density can greatly assist a transit agency in planning the most efficient and effective routing designed to serve the student population. Most universities will make confidential student address lists (no names) available to the transit agency in delimited text format that can easily be plotted by a GIS program. Other transit markets also can be understood and transit marketing can be performed with similar efforts.

For those respondents able to provide estimates, the results are instructive. Although there always are local conditions that affect the best application of transit resources, some inferences can be made.

The transit considerations based on the average distribution of residences suggest that nearly 60 percent of students live within a mile of campus at the "average" university in our sample. These trips are of such a length that bicycling and walking will be strong competitors to transit during good weather.

The good news for universities is that a significant portion of this transportation demand can be "captured." By working with the greater community to provide high-quality safe pedestrian and bicycle facilities to and from high-density student residential areas and through encouraging higher density student oriented residential developments, universities can limit automobile demand to the central campus.

Another significant portion of trips can be served by transit, especially during peak travel periods. It is essential to provide high-frequency service in these areas because of the short travel times and distances required for other modes.

One factor that affects transit production is the ability of students to walk and bike to school. Certainly, the topographical features of an area can make it easier or more difficult to travel, but weather often forces walkers and bicyclists onto transit buses. When asked whether the climate restricts or discourages the choice of those modes, 52 percent of the respondents indicated that there were extended periods in which walking and biking would not be a preferred choice of travel.

5.6 TRANSIT SERVICE TYPE

Transit statistics can be misleading at times, especially when the type of services being compared from one system to another are not the same. For example, when performance statistics between services in a high-density corridor and an overall system are compared, one would expect the corridor to have higher productivity and lower per trip costs. In the university setting, the same can be true.

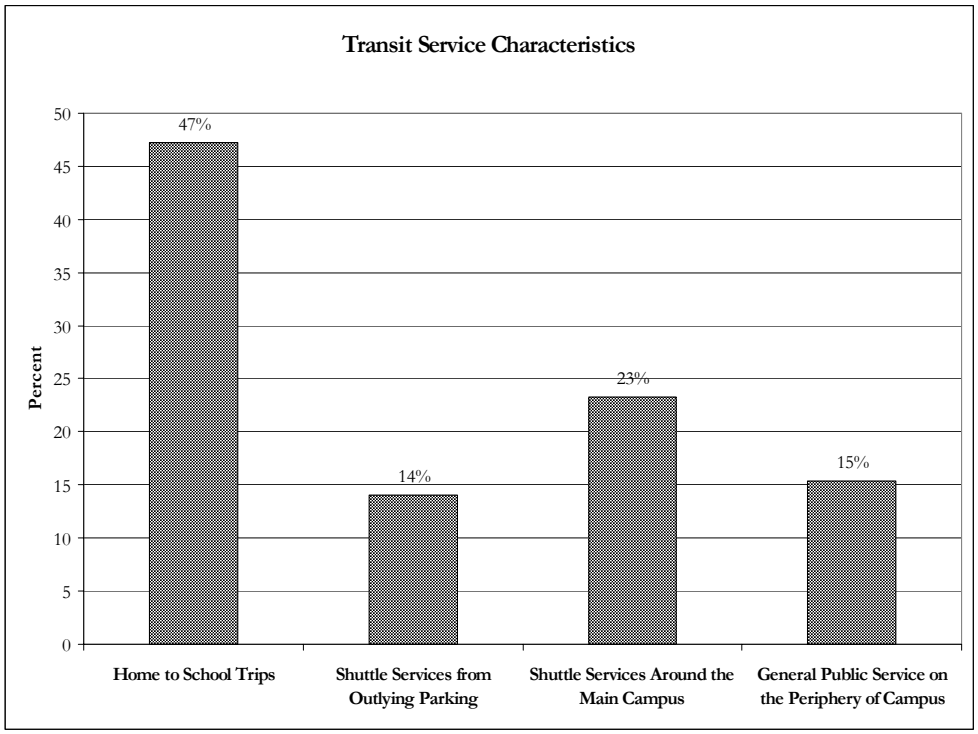

Figure 5.6

Investigators asked what portion of transit service provided to the university falls into the following four categories:

- designed to meet the "home to school" trip,
- shuttle services from outlying parking,
- shuttle services around the main campus, and
- general public service that passes the periphery of campus.

Although the results of the survey report that 47 percent of the services are provided to serve the home to school trip (Figure 5.6), the statistic is quite misleading in several ways. First, the range of variation in the answers to this survey varies widely from one school to another. A better approach to viewing the results then would be to see the variation. The following chart displays how the individual universities answered the question.

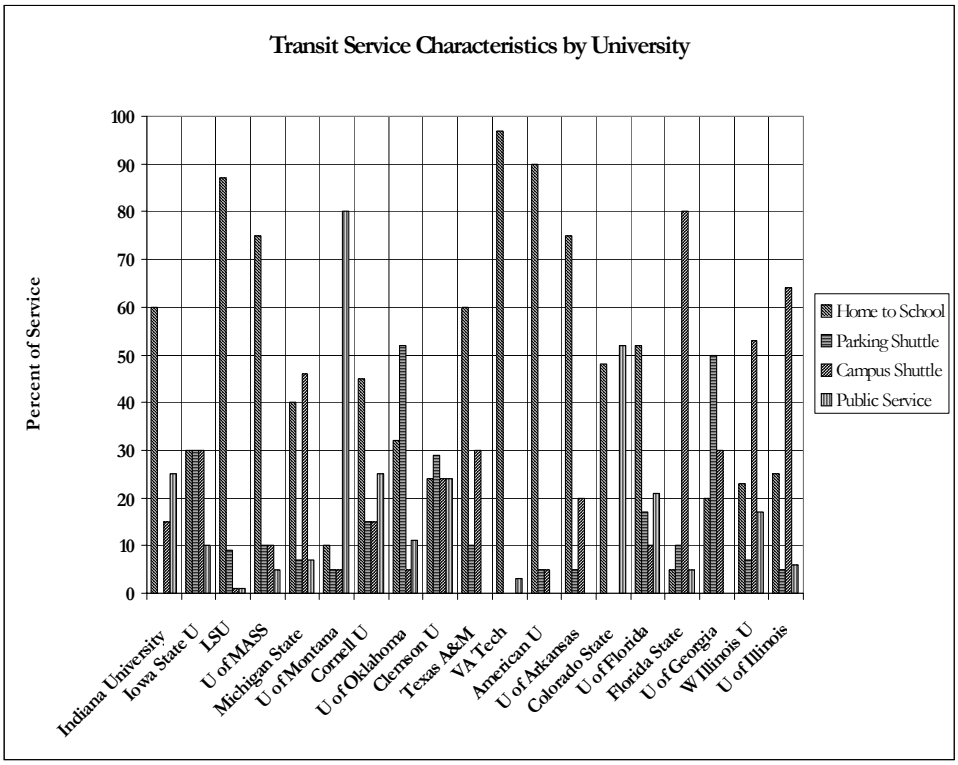

Figure 5.7

Each of the service options addresses a different need or goal. For example, a system serving a university that primarily provides for the "Home-to-School" trip may do so for a number of reasons and to attain a number of goals for the university, the community, or both. Those goals might include:

- reducing the number of vehicles traveling to campus,
- serving students living in high-density corridors,
- reducing the cost of higher education,
- serving students living in outlying areas or communities, or
- all of the above.

Another example would be a system serving a university that primarily provides a "Campus Shuttle." In these instances the goals might include:

- providing internal campus circulation to avoid those trips be taken by automobile,
- providing mobility where automobiles are prohibited,
- providing mobility where the campus is of such a size that there is insufficient time to walk between classes, or
- reducing congestion (all modes) in heavily used corridors.

The data for this question suggests that each university and/or community has chosen a certain set of transit options. It also implies that it is important to establish goals for transit services and to fashion the mix of transit services to meet those goals. As with all good management practices, goals and objectives should be measurable and reviewed periodically through an assessment of performance.

5.7 DEMOGRAPHICS AND TRANSIT RIDERSHIP

Most survey respondents provided information about their universities and communities and the overall performance of the transit system. Investigators asked for basic information about the size and population of the campus and the transit agency's service area. Respondents also provided information about university and overall ridership and revenue service hours.[4] Table 5.1 shows the relationships between these measures.

This table is offered as reference only. In Figure 5.6, we discovered that there are four primary services that can be provided. Those that are 1) designed to meet the "home to school" trip, 2) provide shuttle services from outlying parking, 3) provide shuttle services around the main campus, and 4) provide general public service that passes the periphery of campus.

This study has not, for example, determined the "best" or most productive shuttle service for travel around a central campus. This effort is beyond the scope of this project. However, as the body of data and information increase related to university transit systems, one of the first efforts should be a closer examination of these specific types of service. Determining the characteristics that enhance productivity by service type would provide extremely useful information for university related transit systems across the country.

[4] Data was collected in the 2000-2002 timeframe. Some transit agencies have initiated new services since the data collection phase of the survey was completed and performance characteristics have both changed and improved. For example, the Greater Lafayette Public Transportation Corporation began providing unlimited access services to Purdue University after this data was collected.

Table 5.1

Transit Performance Characteristics

	Transit Area Demographics							Campus Demographic			
Organization Name	**Overall Ridership_1999**	**Size - Total Transit Service Area (Sq.Mi.)**	**Transit Service Area - Total Population**	**Transit System - Total Revenue Service Hours**	**Rides/Capita**	**Rides per Revenue Service Hour**	**Population Density/Sq. Mile**	**Student Ridership_1999**	**Main Campus Size (Sq. Mi.)**	**Campus - Total Population on an Average Day**	**Total Revenue Service Hours Provided to the University**
Purdue U	2,135,333		110,000		19.4					52,000	
Indiana University	1,370,000	12	65,000	61,755	21.1	22.2	5,416.7	7,500,000	4.5		40,000
Iowa State U		20	49,000	80,000				2,587,790	1	35,000	80,000
LSU	2,458,000		500,000		4.9			2,300,000	1.09	40,000	36,000
U of MASS	2,497,408		105,000	63,025	23.8	39.6		2,122,797	2.23	30,000	63,025
Michigan State	5,000,000	1710	250,000	320,013	20.0	15.6	146.2	1,700,000	1	42,000	42,000
U of Montana	702,000	50	70,000		10.0		1,400.0	168,378	4	12,000	
Cornell U	2,331,939		100,000	110,481	23.3	21.1		2,331,939	0.745	26,000	40,193
NC State				33,982		0.0		1,486,289	3.296	35,000	36,763
U of Oklahoma	800,000	20	100,000	32,992	8.0	24.2	5,000.0	256,000	4.9	15,000	20,711
Clemson U	600,000		32,500	22,000	18.5	27.3				25,000	22,000
Texas A&M		50	150,000	135,000				4,300,000		52,500	145,000
VA Tech		19.6	40,000	77,963					1.4	33,000	88,971
U of Washington		2134	1,685,000	3,400,000				5,925,000	0.64	56,857	500,000
American U	1,100,000	2	13,500		81.5		6,750.0	935,000		10,000	
U of Arkansas		18.01	42,099	23,972				1,164,508	8.2	16,000	20,188
U of CA - San Diego	2,000,000							1,860,000			
Colorado State	1,396,046	74.5	120,000	60,872	11.6	22.9	1,610.7		0.611	25,000	34,194
U of Florida	5,832,863	73	140,000	152,474	41.7	38.3	1,917.8	4,521,599	2.8	55,000	72,859
Florida State	690,175							161,508		40,000	
U of Georgia	9,071,840	0.945	42,000	82,687	216.0	109.7	44,444.4	3,023,640	0.945	41,100	85,723
W Illinois U		20	20,000	12,160				830,601	1	5,000	12,160
U of Illinois	10,102,664	30	115,524	228,456	87.5	44.2	3,850.8	5,943,310	2.4	38,000	74,812

6. CONTRACTS & POLITICS

Affecting the Provision of Service

Contracting generally is performed when one party desires a service or product and it is provided by another. This discussion is considerably more relevant to localities where that type of environment exists.

Initially, researchers wanted to determine how much contracting was taking place among the universities/transit agencies surveyed. Among those responding to the survey, 76 percent contracted for services. The universities, transit agencies, or localities identified in this survey where contracting for transit service exist are:

- Purdue University
- Indiana University
- Iowa State University
- Louisiana State University
- University of Massachusetts
- Michigan State University
- University of Montana
- Cornell University
- North Carolina State University
- Virginia Tech
- University of Washington
- Colorado State University
- University of Florida
- Florida State University
- University of Georgia
- Western Illinois University
- University of Illinois

In some instances, contract for the provision of transit service was between a university and an external transit agency.[5] In others, the university supplies the transit service and contracts with a third party.[6]

When asked whether the contract determined the types, locations, or frequency of transit service to the university campus, only 38 percent of those with contracts indicated they had that kind of specificity. This suggests that in many instances the transit provider retains the flexibility to adjust transit service to meet demand. On the other hand, this data may show that those contracting for service either aren't concerned about the level of service being received or are satisfied with the transit service that is provided.

[5] This type of contracting takes many forms. For example, Colorado State University student government contracts with the City of Fort Collins for the provision of transit services. At the University of Illinois, the provider is a transit authority, the Champaign-Urbana Mass Transit District.

[6] The University of Massachusetts provides transit services to area communities and other colleges in the vicinity of Amherst, MA.

Figure 6.1 shows that contracts for transit service generally favor service to students. Fifty-three percent of the contracts for transit service contain provisions for transit service to students. Only 26 and 29 percent respectively reported contract provisions that identified faculty and staff.

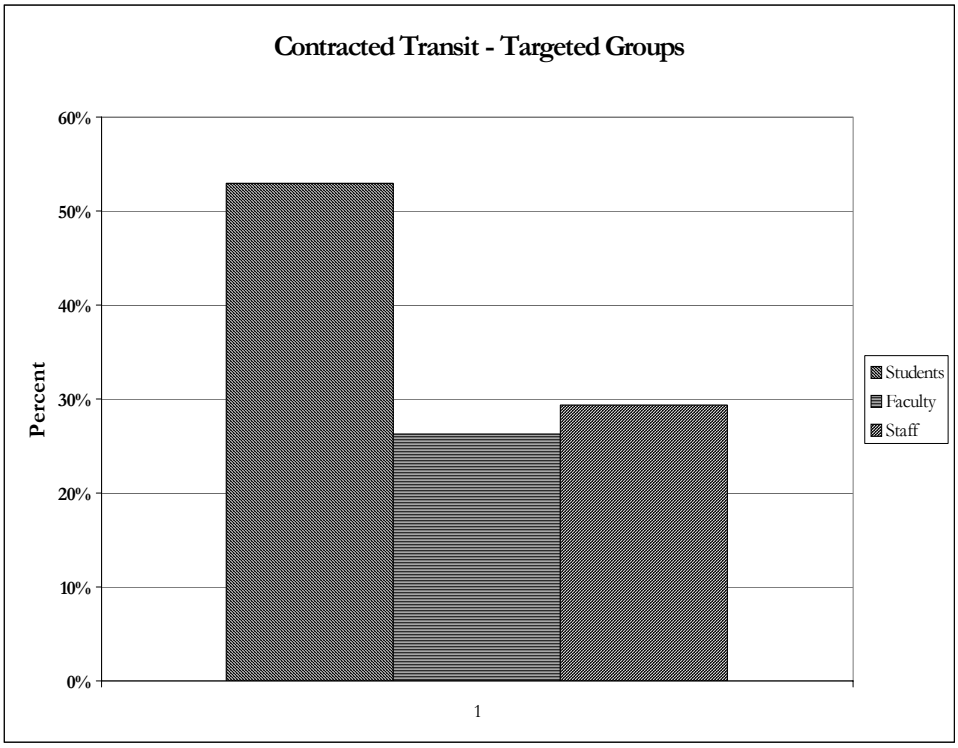

Figure 6.1

A few comments were made by respondents about other types of clauses that added contract specifications. At Iowa State University, the contractual agreement is a three-party agreement involving students, university administration, and City. The contract in place at Western Illinois University involves FTA 5311 funding.

A number of contracts were submitted with the survey questionnaire responses. Those contracts have been retained and are available, although developing an electronic library of contract examples would prove most useful in disseminating contract information to transit agencies, universities, student governments, and others.

In the political realm, a number of questions were asked to ascertain what types of political environments existed where these services were being provided. Each respondent was asked to rate the type of political attitude toward alternative mode (transit, bicycling, walking) use and environmentalism for four groups: 1) the transit agency, 2) the university, 3) the municipality, and 4) the general public.

The average scores for each group are detailed below in Figure 6.2. An average score close to "10" suggests a very supportive environment, while average scores close to "0" reflect a hostile one. Individual scores ranged from a low of "2" to a high of "10."

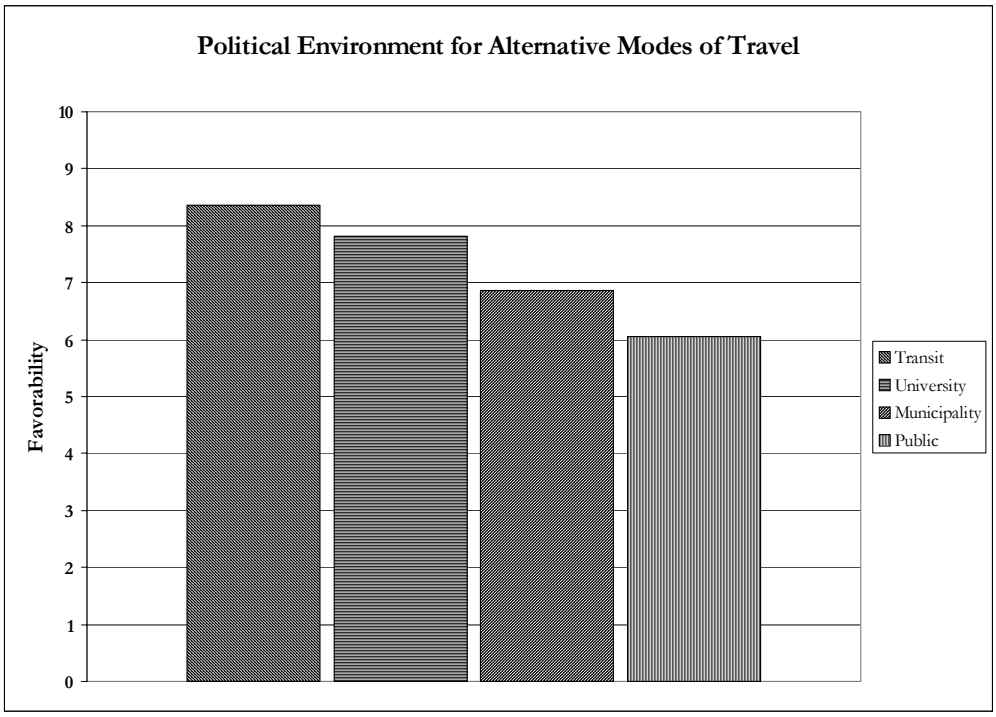

Figure 6.2

Figure 6.2 clearly shows transit agencies, as might be expected, are the most supportive political environment for alternative mode and environmentalism followed closely by the universities they serve. Municipalities are less supportive followed with the general public being the least supportive. It should be noted, however, that with some exceptions in individual responses, all averaged scores represent a generally supportive political environment for alternative mode use and environmentalism.

These results are encouraging, as the political environment is in fact a significant factor contributing to the success or failure of transportation systems.

7. CONCLUSIONS

Innovation

The University Transportation Survey is one of a few attempts to document and understand transportation on and around university campuses.[7] The results of the survey can best be used in the day-to-day setting where a university, a transit agency, a student government, or others are comparing their own circumstance to those found around the United States.

7.1 CAMPUS/COMMUNITY PLANNING

Generally, universities take their campus master planning quite seriously. Most do an excellent job of planning for the future of their campuses. However, a significant number of universities in this survey could enhance the futures of their institutions by:

- including a technology emphasis in future campus master plans,
- addressing transportation planning issues, especially transit service and facilities, in future campus master plans, and
- working more closely with their municipal counterparts in all aspects of planning.

University communities generally are charged with regulating and maintaining most aspects of the public environment. This includes streets, parks, land use, air quality, public health, development, and quality of life. Most of the communities surveyed have completed a land use plan. However, university communities could enhance the future of their communities by:

- Completing a master transportation plan for the community that includes transportation facilities, transit service and facilities, bicycle and pedestrian networks, and access and mobility for its citizens, and
- Working more closely with their university counterparts in all aspects of planning.

7.2 PARKING

Parking may be one of the most emotional issues on university campuses. Quite possibly, it is second on the emotional scale only to final grades. It certainly demands a lot of attention as an ongoing problem on most campuses across the country.

The survey found that the demand ratio for parking on most of the campuses at the universities surveyed suggests that parking is in short supply. One would expect then that as these universities grow, opportunities will emerge to plan and implement alternative demand strategies that employ:

- transit services,

[7] Please see "References" at the end of this document.

- travel demand management programs and services,
- bicycle and pedestrian network improvements, and
- the intensification of residential land use in the immediate vicinity of the central campus.

Or, these universities may simply choose to use the traditional approach of accommodating parking demand and passing on the cost to the user.

The survey also found that at most schools, the plan for new academic buildings was to place them atop existing parking. This is done, to be sure, for all the right reasons: maintain existing green space, preserve the pedestrian character of the campus, reduce sprawl caused by growth, etc.

However, this policy eventually leads to vertical parking (parking structures) when coupled with the traditional approach to accommodating demand. A few of the tools that may delay this outcome found in the study and elsewhere are:

- Restricting the permitting of automobiles to some or all underclassmen. Thirty-five percent of the universities surveyed already employ this policy.
- Providing "cashout" incentives to employees of the university. No school surveyed currently takes advantage of such a program.
- Continuing to use aggressive enforcement to discourage illegal use.
- Instituting neighborhood parking permit programs to not only be a "good neighbor," but also to capture revenue through legitimate permit sales. Only 60 percent of schools employ this practice in the neighborhoods immediately adjacent to their campuses.
- Recognizing the value of price elasticity of demand related to parking and implementing a policy, consciously, as an effective way to dampen the impact of the automobile on the campus and the university's budget.

7.3 LAND USE AND DEVELOPMENT

Land use and transportation policies and decisions have always affected one another. Every transit manager directed to provide coverage services through low-density neighborhoods understands the effect and the decisions that must be made. What type of ridership productivity will we achieve? What is an appropriate service frequency? How do I size the transit vehicle fleet to meet the demand?

Decisions made by a university about its land use and development directly affect, not only transit, but also traffic, bicyclists, and walkers. Two observations that come from this survey are:

- Few universities surveyed are required to meet local land use codes or regulations for development. As such, most universities are relatively free to build the kinds of development that support the needs of the campus. However, when campus development takes place in a context that does not include the larger community, problems arise related to the broader transportation system, e.g., traffic congestion, inadequate parking supply, modal conflict, safety.
- Few respondents indicated that *adequate public facilities* ordinances (APF) existed in their community. APF ordinances generally delay development or require developers to provide transportation services or facilities when a development causes transportation (or other) systems

to fail. Respondents also indicated that no universities were affected by APF regulations even where they exist.

7.4 TRANSIT AND TRANSPORTATION

Transit plays a major role at most of the universities surveyed. Although the survey did not specifically compare university community transit systems to non-university community systems, transit in such systems or portions of service dedicated to universities tends to be considerably more productive (riders/per revenue service hour, cost per ride, etc).

A number of significant findings from the survey point to positive indications for the group of transit systems serving university campuses.

- On the whole, transit systems have relatively good access to the university campuses they serve. Many systems enjoy a central campus hub that serves transit passengers with a university destination with a convenient destination.
- A large majority of transit systems surveyed have *unlimited access* programs in place.
- Survey results indicate that there is a variety of transit service types in place and that these combinations of service are designed to meet specific goals and objectives for the university/transit agency and the passenger. Different combinations of a mix of service existed in wide variation at the campuses served by transit. Service generally was designed to meet the needs for:

    - the home to school trip,
    - parking shuttles,
    - circulation shuttles,
    - service to the general public.

- Fifty-nine percent of students at the schools surveyed live within one mile of campus. This suggests opportunities exist to provide high-frequency transit service to those populations, especially in areas with inclement weather.

Other findings point to areas where improvement can be made to support transit activity.

- There are few restrictions to automobile use on most campuses.
- Few transit agencies possessed good information (data, especially demographics) about their respective student populations.
- Only 39 percent of university administrations financially support or offset the student contribution for transit service.
- Only 52 percent of university administrations financially support or offset the faculty/staff related transit service or access.

7.5 CONTRACTS AND POLITICS

More good news!

- Transit in most university communities enjoys a relatively supportive political environment. Most respondents reported that the transit agency and the university were supportive of alternative modes of travel (transit, bike, pedestrian) and programs and policies that protect the environment.
- Approximately two-thirds of the transit agencies reporting indicated that they have formal contracts for service with the university or student governments/bodies.
- More than one-half of the contracts for service ensure transit service to student populations.
- Most contracts for service allow the transit provider considerable flexibility in implementing the types and amount of transit service being provided.

One data observation worth noting was that although the transit agency and the university were politically supportive of transit, municipalities and the general public were considerably less so.

7.6 REACHING A BETTER UNDERSTANDING

Based on the information presented here, several areas of study or ongoing efforts may be warranted:

- How does land use planning at the university and community levels affect transportation systems on or around university campuses?
- Identify the "best" or most productive transit system service types in university communities and what causative factors make them work so well. (Home-to-school, parking shuttles, circulation shuttles, and general public service in university communities)
- Examine the reasons that limit university administrations' contributions to student; faculty; and staff-related transit services.
- Develop an electronic library of service contracts and related materials that exist between universities and transit agencies.

Daggett and Gutkowski will continue to explore the data collected by the University Transportation Survey. Additional analysis is likely, especially as the body of information on these topics grow.

In a quote worth repeating from James H. Miller in his work titled "Transportation on College and University Campuses:"

> "Greater efforts need to be made to share information on successes, failures, and lessons learned. … [C]ontinued efforts and programs should be developed to facilitate [the] sharing of information between university communities, and also to translate the knowledge gained to applications for all communities."

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21) University of Wisconsin-Milwaukee, "Segregated Fees – Fall 2000," [Online], Available: http://www.uwm.edu/Dept/DES/Schedule/Fall/feeinfo.html#segregated

22) U-Pass Annual Report: September 1998 - September 1999, University of Washington, On-line version, [Online], Available: http://www.washington.edu/upass/getting_upass/what_is_upass.html

23) Williams, M. E., and Petrait, K. L., "U-PASS: A Model Transportation Management Program That Works," *Transportation Research Record 1404,* TRB, National Research Council, Washington, D.C. (1993)

24) University of California - Davis, "Long Range Access Plan," [Online], available: http://www.taps.ucdavis.edu/LRP.htm

25) Transportation Policy Committee, "Preliminary Report and Recommendations," University of New Hampshire, Durham, NH (2002)

26) Colorado State University Strategic Transportation Plan, Nelson-Nygaard Associates/City of Fort Collins, Fort Collins, CO (2002)

9. APPENDIX. UNIVERSITY TRANSPORTATION SURVEY

Transportation in University Communities

QUESTIONNAIRE

Recently, your organization was asked to participate in a survey of campus transit systems. The project sponsored by the Transit Cooperative Research Program (TCRP) was titled "Transportation on College and University Campuses" (Project SA-11). The project was designed as an effort to better understand and disseminate information about campus transportation.

The TCRP project involved a review of the literature, case studies, and a survey of approximately 50 large campus transit systems. The Transit Cooperative Research Program should be commended for this very practical effort to assist others in understanding the successes of transit systems in university communities and the elements that lead to that success.

Working cooperatively with Dr. Jim Miller at Penn State, the City of Fort Collins and Colorado State University are following up on the original TCRP survey to acquire additional information about transit in university communities. Specifically, our focus is on the policy, land use, and the support environments that make transit so successful in certain university communities and especially on and around university campuses.

You may be acquainted with Fort Collins and Colorado State. The City and the University, with the help of many other individuals and transit agencies around the country[8], initiated the first national conference about transit in university communities in June 1998. We continue to be committed to fostering the exchange of information about this important subject and in assisting universities and transit agencies around the United States achieve successful transportation strategies.

As a professional who is directly involved in planning or operating public transportation services in a university community, you could help us by completing the following questionnaire. Since we are coordinating our effort with Dr. Miller, we are not asking for information such as the operational characteristics of your transit system. We are interested in documentation of university, transit, and transportation policies, the campus and surrounding land uses, and the contractual environments.

You could also assist the University Transportation Survey project by sending copies of policy documents (e.g., plans, ordinances, or resolutions), regulatory documents (e.g., parking regulations, an explanation of student, faculty, and staff transportation fees) and intergovernmental agreements or service contracts that affect transit service or parking operations. Please include other documents that you feel address a transportation element that affects transit productivity. We will compile all materials received into a library that we will make available to those interested in understanding how these issues/conditions are addressed at a variety of university campuses.

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[8] CU - MTD, Champaign - Urbana, IL; CUTR, Univ. of South Florida, Tampa, FL; Univ. of Minnesota, Minneapolis, MN; Univ. of Massachusetts, Amherst, MA; APTA; CTA, Chicago, IL; Harvard University, Cambridge, MA; CTAA; Institute of Transportation Studies, UCLA; CATA, State College, PA; BPTC, Bloomington, IN; Unitrans, UC Davis, CA; Metro Transit System, Kalamazoo, MI; SCMTD, Santa Cruz, CA; Blacksburg Transit, Blacksburg, VA; Univ. of Florida & RTS, Gainesville, FL; Univ. of Georgia, Athens, GA; Kent State Univ., Kent, OH; Cy Ride, Ames, IA; Univ. of Pittsburgh, Pittsburgh, PA; GLPTC, West Lafayette, IN; Capital Area Transportation Authority, Lansing, MI; Univ. of British Columbia, Vancouver, B. C., Canada, and individuals too numerous to mention.

In addition, there are a few questions we are asking you to complete so that we can acquire a better understanding of how university, transit, land use and transportation policy, the land uses, and contractual environments affect transit performance. In some instances, these questions may be difficult to answer and may require additional contributors to complete the form. We are asking that you help in the best way you deem possible. Remember that we are available and committed to assisting you in completing this questionnaire.

You may, however, not be the appropriate person or have access to the information needed to complete the form. In that case, please help us by letting us know who the appropriate contacts are by sending us an email at uts@ci.fort-collins.co.us or calling us collect or direct at the telephone number below.

Please send your completed questionnaire and any supporting materials by Friday **March 16, 2001**, to the address below.

If you have any questions, please feel free to call me, John Daggett, at (970) 224-6190, (by fax at (970) 221-6239), or email me at uts@ci.fort-collins.co.us.

Please mail completed questionnaires and other materials to:

John Daggett
University Transportation Survey
Transportation Planning
210 East Olive Street
Fort Collins, CO 805

Information about the Person Responsible for Completing the Questionnaire

Name _____ Title _____

Organization _____

Address _____

Telephone _____ Fax _____

Email Address _____

(***or simply attach a business card above***)

Identity of the University, the Community, and the Transit System

1. Name of Community Served _____
2. Name of University Served _____
3. Name(s) of Transit System(s) serving the University and surrounding community (legal and/or marketing name)

_____

1. Name of the office, and the contact person at the university that is responsible for transportation operations

   Name of the office/department _____

   Name and title of contact person_____

2. Is there anyone else at the university or within the local community (another transit provider) that we should contact to better understand the transit services in your community?

   _____ No
   _____ Yes. If yes, please give name and phone number.
   _____
   _____

Master Planning

6. Does the university have a campus master plan in place? _____ Yes_____ No
7. If yes, has the plan been updated in the last eight years? _____ Yes_____ No

Please attach a copy of the current Campus Master Plan.

8. Is the campus master plan comprehensive? _____ Yes_____ No

9. Which of the following elements does the campus master plan include?

- Campus Site Structure _____ Yes_____ No
- Open Space _____ Yes_____ No
- Transportation
  - Traffic & Circulation _____ Yes_____ No
  - Parking _____ Yes_____ No
  - Bicycle Circulation _____ Yes_____ No
  - Transit Service & Circulation _____ Yes_____ No
  - Pedestrian Circulation _____ Yes_____ No
  - Service Access _____ Yes_____ No
- Land & Building Use _____ Yes_____ No
- New Building Construction _____ Yes_____ No
- Campus Aesthetics _____ Yes_____ No
- Technologies _____ Yes_____ No
- Utilities _____ Yes_____ No

10. Has the city or municipality in which the university is located enacted

- A comprehensive land use plan _____ Yes _____ No
- A comprehensive transportation plan _____ Yes _____ No

Please attach a copy of the current land use and transportation plans.

Parking

11. What is the current ratio of parking demand to parking supply? (Registered Vehicles/Parking spaces)

On Campus _____

In the Area Surrounding Campus _____

12. Are there university restrictions to car ownership/parking permits for underclassmen?
_____Yes _____ No

13. Does the university have a *cashout* parking policy in place for university faculty or staff using campus parking facilities? _____Yes _____ No

14. Does the city, municipality, or university enforce parking regulations in the areas and neighborhoods immediately adjacent to the university campus?
_____Yes _____ No

15. If yes to question 14, are there neighborhood parking permit programs in place in the neighborhoods adjacent to the university campus? _____Yes _____ No

16. On a scale of 1-10 (where "1" is lenient and "10" is very strict), please rate how the university approaches enforcing its parking regulations. (Circle a number)

1—2—3—4—5—6—7—8—9—10

17. What is the current parking fee per semester (prorate if necessary) for:

- Students living on campus $_____
- Students living off campus $_____
- Staff $_____
- Faculty $_____
- Other $_____

Please attach a copy of the current parking regulations.

Land Use / Development

18. Does the State or municipality have statutes governing growth in trip generation affecting the university's ability to develop new facilities on campus?
_____ Yes _____ No

19. What is the amount of buildable land available for new development on campus?
_____acres

20. What is the ratio of buildable land to the size of the campus(es)? (Available buildable acres/total acres) _____

21. Has the city or municipality in which the university is located enacted an adequate public facilities ordinance? _____ Yes _____ No

If yes, have or will these requirements restrict new campus development?
_____ Yes _____ No

Please attach a copy of the current Adequate Public Facilities ordinance.

22. Where is <u>new</u> campus development targeted?

- On existing green fields _____ Yes _____ No
- On existing surface parking areas _____ Yes _____ No
- Off campus _____ Yes _____ No

Transit and Transportation

23. Is there an ***unlimited access to transit program*** in place for university students, faculty, or staff? (Unlimited Access programs usually refer to pass programs financed by a fee prepaid by an entire group (e.g., students, faculty, or staff) and are funded much like employee medical plans. They provide for free or reduced fare unlimited access to transit services.)

- Students _____ Yes _____ No
- Faculty _____ Yes _____ No
- Staff _____ Yes _____ No

24. Are there dedicated transitways on campus? _____ Yes _____ No

25. Are cars other than service vehicles allowed on campus? _____ Yes _____ No

Where? Campus Core _____ Campus Periphery _____ Both _____

26. Does transit service to the campus:

- Serve a centralized transit center in the heart of campus (e.g., academic core site, main library site, or student center site) _____ Yes _____ No
- Serve a transit center at the edge of the campus _____ Yes _____ No
- Routes serve the periphery of campus and do not travel through a common transit center/hub _____ Yes _____ No

27. Is there a university paid transit fare subsidy for:

- Students _____ Yes _____ No
- Staff _____ Yes _____ No
- Faculty _____ Yes _____ No

28. How would you describe traffic congestion on the roads on campus?

- _____ None
- _____ Very Little
- _____ Moderate
- _____ High
- _____ Severe

29. How would you describe traffic congestion on the roads around campus?

- _____ None
- _____ Very Little
- _____ Moderate
- _____ High
- _____ Severe

30. Please estimate the % of student who reside within:

- ¼ mile of campus _____
- ½ mile of campus _____
- 1 mile of campus _____
- 1-5 miles of campus _____
- > 5 miles of campus _____

31. Does the weather in your locale restrict or discourage biking or walking to campus for extended periods during the year? _____ Yes_____ No

32. As an estimate of total ridership of all university patrons, what portion of the service your transit system provides to the university falls in the following categories?

- Designed to meet the "home to school" trip needs of students. _____%
- Shuttle services from outlying parking areas into the heart of campus _____%
- Shuttle services around the main campus _____%
- General public service that passes by the periphery of campus _____%

33. Has the transit agency specifically designed routes to serve student-housing areas?
_____ Yes_____ No

34. How large is the university's main campus? _____ Sq. Miles

35. What is the total population on campus on an average day during the spring or fall semesters? (Total Individuals) _____

36. What are the total revenue service hours for transit service provided to the university annually?
_____

37. What is the total population of the transit agency's service area? _____

38. What is the size of the transit agency's service area? _____

39. What was the transit agency's total revenue service hours during its last fiscal year?
_____

40. Indicate the type of area in which the university is located (check one):

- Urban
- Suburban
- Rural

Contracts

41. Is there a contract(s) specifically for the provision of transit service to the university?
_____ Yes_____ No

42. Does the contract(s) determine the types, locations, and frequency of transit service to the university campus?
_____ Yes_____ No

43. Is there a contract(s) specifically for the provision of transit service to certain university groups?

- Students _____ Yes_____ No
- Faculty _____ Yes_____ No
- Staff _____ Yes_____ No

Please attach a copy of these contracts.

44. What other contracts affect the provision of transit service with the university?

- _____
- _____
- _____

Please attach a copy of these contracts.

Politics

45. On a scale of 1-10 (where "1" is not supportive and "10" is very supportive), please rate how favorable the political environment within each group is to issues of alternative mode use and environmentalism. (Circle a number)

- Transit Agency 1—2—3—4—5—6—7—8—9—10
- University 1—2—3—4—5—6—7—8—9—10
- Municipality 1—2—3—4—5—6—7—8—9—10
- General Public 1—2—3—4—5—6—7—8—9—10

What would you like to know?

Do you have any questions about transportation on colleges and university campuses that we could address in this study? How could the current study of campus transportation better help your system?

_____

_____

_____

The primary objective of the University Transportation Survey project is to assemble information that will benefit transit agencies and universities. We thank you for sharing information about your transportation environment with us. We hope our final report and library materials will be of future use to you and advance our goal of enhancing transportation in university communities.

Thank you,

John Daggett, AICP

Dr. Richard Gutkowski